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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,125	12/29/2000	Mitsuhiro Kanada	Q62454	6746

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EXAMINER

CHANG, VICTOR S

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/750,125

Applicant(s)

KANADA ET AL.

Examiner

Victor S. Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/26/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Introduction

1. Applicants' remarks filed on 8/2/2006 have been entered. Claims 1-10, 16 and 17 are active.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Rejections Based on Prior Art

3. Claims 1, 3-10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/47573 in view of JP 08-325408 (machine translation).

WO '573 relates to a low-density microcellular thermoplastic elastomeric foams with closed cells. The foam is made using supercritical fluid CO₂ as the blowing agent [abstract]. The polymer and the blowing agent are mixed in the melt stage in a tandem extruder under high temperature and pressure, subsequently the temperature and pressure are reduced to initiate foaming [page 3, lines 9-17]. Additional components of the foams include fire (flame) retardants [page 3, line 7]. Depends on pressure drop rates between 0.1 to 15 GPa, thermoplastic foams having various densities between 6 to 14 pcf, and uniform cell sizes of about 100 to 150 microns are obtained [page 4, lines 8-30]. Various foam properties such as the density, cell structure and size, compression set, etc. may be adjusted by varying the foaming conditions [page 5, lines 23-26]. The optimal compression set is less than about 30% [page 5, line 30]. Table 1 shows suitable foam materials include SANTOPRENE[®], SEBS resin, polyethylene, etc. Further, WO

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'573 expressly teaches that SANTOPRENE[®] is a blend of polypropylene and ethylene propylene (EPDM) copolymer [page 3, lines 2-5].

For claims 1, 3-10 and 17, WO '573 lacks a teaching of incorporating flame retardants $\text{MgO} \cdot \text{ZnO} \cdot \text{H}_2\text{O}$ or $\text{MgO} \cdot \text{NiO} \cdot \text{H}_2\text{O}$ in the thermoplastic foam. However, the invention of JP '408 relates a flame-retardant thermoplastic resin composition comprising inorganic oxide. Examples of the inorganic oxides used include magnesium oxide, nickel oxide, aluminum oxide, zinc oxide, etc. These oxides may be used alone or in the form of a mixture of at least two oxides [abstract]. Further, JP '408 teaches that it is known art to use hydrated metallic oxide [paragraph 0003]. It would have been obvious to one of ordinary skill in the art to select and modify the thermoplastic foam of WO '573 with a suitable hydrated metal compounds such as $\text{MgO} \cdot \text{ZnO} \cdot \text{H}_2\text{O}$ or $\text{MgO} \cdot \text{NiO} \cdot \text{H}_2\text{O}$, because it is clearly encompassed by the teaching of JP '408 as a hydrate of a mixture of specifically taught metal oxide, motivated by the desire to improve the flame retardant property of the thermoplastic foams. See MPEP § 2144.07.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/47573 in view of JP 08-325408 (machine translation), and further in view of Applicants' admitted prior art JP-A-322168.

The teachings of WO '573 and JP '408 are again relied upon as set forth above.

For claim 2, applicants have admitted that it is known art to impregnate a pre-formed unexpanded thermoplastic molding, as taught by the prior art JP-A-322168 [specification, page 4, paragraph 2].

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/47573 in view of admitted prior art and JP 08-325408 (machine translation).

The teachings of WO '573 are again relied upon as set forth above.

For claim 16, although WO '573 lacks a teaching of using the foam as acoustic material, applicants have admitted that it is well known that expanded materials are used in various pads for the purposes of soundproofing, cushioning, etc. in electronic appliances [specification, page 2, second paragraph].

Response to Argument

7. Applicants argue [Remarks, page 2, 3rd paragraph] that while JP '408 teaches that an inorganic oxide may be used in the flame-retardant composition and specifically exemplifies titanium oxide, but there is no teaching or suggestion of a hydrated metal compound, much less a hydrated metal compound which is a composite of $\text{MgO} \cdot \text{ZnO} \cdot \text{H}_2\text{O}$ or $\text{MgO} \cdot \text{NiO} \cdot \text{H}_2\text{O}$. However, JP '408 does teach that it is known art to use metallic oxide in hydrated form [paragraph 0003]. Applicants' argument is unpersuasive.

Applicants argue [Remarks, pages 2-3] that the composite metal hydroxide of the present invention is a composite of hydroxides and is completely different from a mixture of respective hydroxide. However, the composite metal hydroxide is inherently read upon by the teaching of JP '408 that the flame retardants can be used in the form of a mixture, as set forth above, and is clearly an obvious choice by one of ordinary skill in the art of flame retardants. Applicants' argument to the contrary is unpersuasive.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S. Chang whose telephone number is 571-272-1474. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H. Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

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like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

VSC

Victor S Chang
Examiner
Art Unit 1771

8/25/06



TERREL MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700